

GWS

File No.

DUPLICATE

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

T. 19 N. 57 E. 18

County Richland

RECEIVED

JAN 8 1963

STATE ENGINEER

Notice of Completion of Groundwater Appropriation Without Well

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater Nov 1910 No 2 1914 No 3 11-12-62Owner J. R. Fritchie Address Savage Mont

Contractor (if any)

Address of Contractor

Date Started November 3-11-12-62 Date Completed

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. spring depth 4 ft

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent estimate approximate lengths of periods of use.

No 1 1 gallon in 4 minutes

No 2 and 3 1 gallon in 3 minutes
Used for livestock water
Used gallon pails to measure

Signature of Owner J. R. FritchieDate 12-19-62

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the School of Mines and Quadruplicate for the Appropriator.

STATE OF MONTANA, }
County of Richland, } # 280359

Filed this 7 day of

Jan. A. D. 19 63

at 9:56 o'clock P. M.

E. L. Hansen

County Recorder

S. Sullivan

Deputy

for # 200

filed

T. 19 N. 57 E. 18
County Richland

MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

RECEIVED
JAN 2 1961

WATER WELL LOG

STATE ENGINEER

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
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| | | | | | | | | | |

Owner J. R. Fritchie Address Lawrence Mont

Driller _____ Address _____

Date Started _____ Date Completed 1912

Location: Sec. 18 T. 19 R. 57 1/4 sec. N. E.

Type of well Dug by hand Equipment used _____
(Dug, driven, bored, or drilled) (Churn drill, rotary, other)

Water use: Domestic ☒

Municipal ☐

Stock ☒

Irrigation ☐

Industrial ☐

Drainage ☐

Other: _____

Casing: Rock ft. to _____ ft. Type _____ Size _____

Casing: _____ ft. to _____ ft. Type _____ Size _____

Casing: _____ ft. to _____ ft. Type _____ Size _____

Perforated or Screened: Ft. _____ to ft. _____ Ft. _____ to ft. _____

Type of screen or perforations _____

Static Water level, for non-flowing well: 18 1/2 feet.

Shut-in pressure, for flowing well: _____ lb./sq. in. on: _____ (date)

Pumping water level: 18 feet at _____ gal. per min.

How tested: _____

Length of test _____

Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

(over)

STATE OF MONTANA,
County of Richland,

} ss. 274685

Filed this 28 day of
Dec A. D. 1961
at 1:05 o'clock, P. M.

E. J. Zinke
County Recorder
D. Sullivan
Deputy

no fee
filed

File No.

T. 19 N. R. 57 E.

DUPLICATE

County Richland

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

RECEIVED
DEC 27 1963

Notice of Completion of Groundwater Appropriation
Without Well

STATE ENGINEER

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater December 26, 1963

Owner J. R. Fritchie Address Baraga, Montana

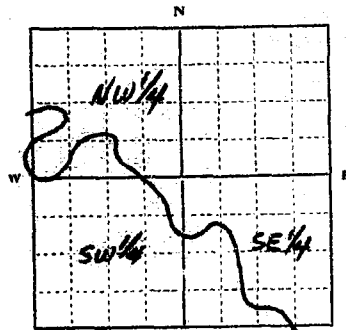
Contractor (if any)

Address of Contractor

Date Started..... Date Completed.....

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable.

Creek fed by springs



..... 1/4 Sec. 19 T. 19 R. 57 E.
Indicate point of appropriation
and place of use, if possible.

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use.....

used continuously

Signature of Owner.....

Date.....

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

285996

STATE OF MONTANA, }
County of Richland, } ss.

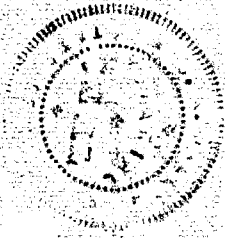
Filed this 26 day of
December A.D. 1963

at _____ o'clock _____ M.

E. L. Hooker
County Recorder

John Burke
Deputy

for 2⁰⁰
Filed



from a creek.

285996

December 26, 1963

Mr. J. R. Fritchie, Savage, Montana

February 26, 1964

December 26, 1963

285996

from a creek.

JW 3

Approved Stock Form—State Publishing Co., Helena, Montana—42262

File No. _____

T. 17 N. 57ECounty Phillips

DUPLICATE

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

JAN 10 1964

Notice of Completion of Groundwater Appropriation
Without Well

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater 1945Owner Rene Barone Address PHILLIPSContractor (if any) noneAddress of Contractor noneDate Started noneDate Completed none

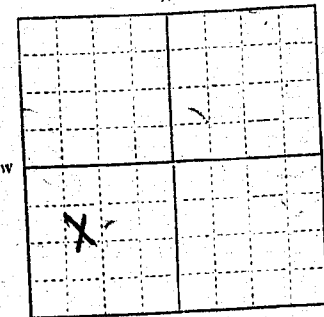
Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. a pipe was

driven to approximate bottom
of spring to a depth of three
or four feet

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use. two

gallons a minute measure
with gallon jar
use all year
around

Signature of Owner Rene BaroneDate 12/30/63

SW $\frac{1}{4}$ Sec. 23 T. 19 R. 57
Indicate point of appropriation
and place of use, if possible.

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

29460

286156

30 day of
December A. D. 1963

11:46

E. J. Kraker
County Registrar

John Burke
Deputy

Dec 20
Filed

GV

File No.

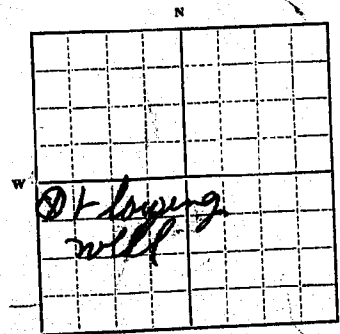
DUPLICATE

T. 11 N. R. 16 E. S. 24
County RichlandSTATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEERRECEIVED
DEC 26 1963

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

STATE ENGINEER

1. Mr. RENE BARONE, of SAVANA,
(Name of appropriator) (Address) (Town)
County of Richland State of Mont.
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

24 24 19 57
Indicate point of appropriation
and place of use, if possible.
Each small square represents 10
acres.

2. The beneficial use on which the claim is based.
Home use & livestock.
3. Date or approximate date of earliest beneficial use; and how continuous the use has been.
unknown
4. The amount of groundwater claimed (in miner's inches or gallons per minute).
2 gals. per minute
all yr.
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof.
none
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal.
none

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater.
unknown
8. The depth of water table.
350 ft.
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater.
unknown
10. The estimated amount of groundwater withdrawn each year.
3,679,200 gallons
11. The log of formations encountered in the drilling of each well if available.
unknown
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record.

Signature of Owner.

Rene BaroneDate. 12-23-63

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

12647

STATE OF MONTANA, } ss. 285937
County of Richland, }

Filed this 23 day of

Dec. A. D. 1963

at 2:22 o'clock P. M.

E. L. Roeder

County Recorder

D. Sullivan

Deputy

for \$2.00
filed

G.V.

Approved Stock Form—State Publishing Co., Helena, Montana—42234

File No.

T. 19 N 57 E

DUPLICATE

County Richland

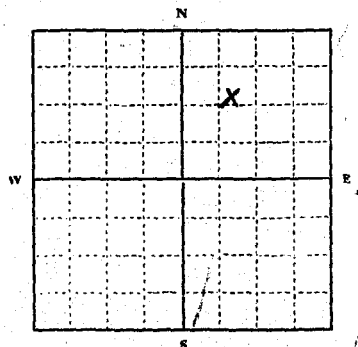
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

JAN 20 1964

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Herbert Jensen, of Chicago
(Name of Appropriator) (Address) (Town)
County of Richland State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



NW 1/4 Sec. 24 T. 19 R. 57

Indicate point of appropriation
and place of use, if possible. Each
small square represents 10 acres.

2. The beneficial use on which the claim is based stock water
3. Date or approximate date of earliest beneficial use; and how continuous the use has been
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 5 or 6 gallons more or less
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof no
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal pump

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater Oct 7, 1919

8. The depth of water table 6 ft to water well is 16 ft deep

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater.

4 in. casing for 1 1/4 pump pipe

10. The estimated amount of groundwater withdrawn each year unknown

11. The log of formations encountered in the drilling of each well if available 3 ft clay, 10 ft sand, 3 ft gravel

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record none

Signature of Owner

Herbert Jensen

Date Dec 31, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

29918

STATE OF MONTANA. } no. 286624
County of Richland.

Filed this 31 day of
December A.D. 1963
at 1:48 o'clock P.M.
County Recorder
John Burke
Deputy

fee 2.00
filed

RECEIVED

T. 19 N R 57 E 24
County Richland

STATE ENGINEER

MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

WATER WELL LOG

| | | |
|--|--|--|
| | | |
| | | |
| | | |

Owner Vernon Wilder Address Savage, Mont.
Driller Dave Gulbrun Address Savage, Mont.
Date Started Oct 14, 1959 Date Completed Oct 15, 1959
Location: Sec. 24 T. 19 R. 57 $\frac{1}{4}$ sec. SW

Type of well drilled Equipment used Rotary
(Dug, driven, bored, or drilled) (Churn drill, rotary, other)

Water use: Domestic ☐ Municipal ☐ Stock ☒ Irrigation ☐
Industrial ☐ Drainage ☐ Other: _____

Casing: 0 ft. to 22 ft. Type Steel Size 4 1/2"
Casing: _____ ft. to _____ ft. Type _____ Size _____
Casing: _____ ft. to _____ ft. Type _____ Size _____

Perforated or Screened: Ft. _____ to ft. _____ Ft. _____ to ft. _____

Type of screen or perforations _____

Static Water level, for non-flowing well: 8 FT. from TOP feet.

Shut-in pressure, for flowing well: _____ lb./sq. in. on: _____ (date)

Pumping water level: 10 feet at 12 gal. per min.

How tested: Boiler

Length of test: 45 min.

Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

Gravel packed around casing

(over)

Log of Well

[illegible]

File No. _____

T. 19 N 57 E

DUPLICATE

County Richland

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

JAN 10 1964

Notice of Completion of Groundwater Appropriation
Without Well

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater 1945

Owner Rene Barone Address Garage

Contractor (if any) none

Address of Contractor none

Date Started none Date Completed none

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes" Include device to water when applicable a steel tank

with out a button was place two feet in the side hill the water comes up from the bottom

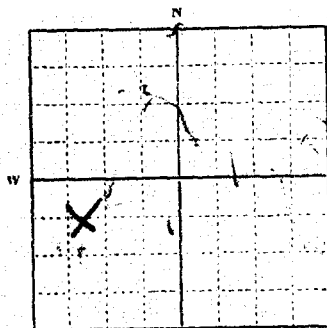
Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use all

year around three gallons a minute a gallon jar was used to measure

Signature of Owner Rene Barone

Date 12/30/63



SW 26 Sec. 19 R. 57
Indicate point of appropriation and place of use, if possible.

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

STATE OF MONTANA, } ss. 986155
County of Richland,

Filed this 30 day of
December A.D. 1963
at 11:44 o'clock P.M.

E. L. Cooper
County Register
John Durkin
Deputy

for 2.00
filed

GROUNDWATER INDEX

Page 1 of 1

County Richland Twp. 1927 Rge. 586

[illegible]

File No.

T 19 N R 58 E

DUPLICATE

a deep well from 509' to 1029 feet

County Richland
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER
RECEIVED
AUG 1 1963

Top of Ground

509 Elev. above sea level 2045' app.

520 hard gray shale

520 coal

527 crumbly shale

537 fine sandstone 1 1/2 gal. 5' m.

557 shale

567 shale

573 shale

575 rock

585 shale

626 coal

633 shale

637 coal

647 coal

694 hard shale

694 hard rock

723 hard brown shale

725 hard gray shale

725 crumbly gray sandstone

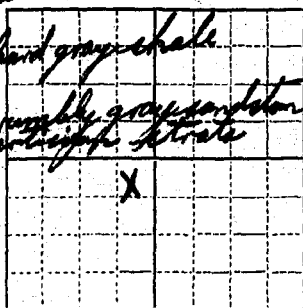
725 crumbly shale

935

1009

1009

1029



L 1/4 Sec. 2 T 19 R 58
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

1029 Show exact depth of bottom.

Notice of Completion of STATE ENGINEER Appropriation by Means of Well

(Under Chapter 237, Montana Session Laws, 1961)

Owner Frank Osborne Address Sidney, MontDriller Francis Boyce Address Sidney, Mont

Date of Notice of Appropriation of Groundwater.....

Date well started June 18 1963 Date Completed June 26 1963Type of well Drilled Equipment Used Rotary
(dug, driven, bored or (Churn, drill, rotary or
drilled) other)Water Use: Domestic ☐ Municipal ☐ Other ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Stock ☒

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|------------------------------------|-------------|-----------|-------------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 3 1/2" | 1 1/2" galv pipe from 0 to 1029 ft | 509 | 1029 | 4" x 2" galv pipe | 1009 | 1029 |

Static Water Level for non-flowing Well.....feet.

Shut-in Pressure for Flowing Well 56 lbs June 28 1963

Pumping Water Level.....feet at.....gal. per minute.

Discharge in gal. per min. of flowing well 10 gallons

How Tested.....Length of Test.....

Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other similar pertinent information, including number of

acres irrigated, if used for irrigation) bottom packer

at 1007 is 3 1/2" O.D. steel tube
6 ft long

No. 92
Driller's License Number
Francis I Boyce
Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

5227

STATE OF MONTANA, } ss. 283816
County of Richland, }

Filed this 12 day of

July A. D. 1963

at 2:17 o'clock P. M.

E. L. Kasher
County Recorder

D. Sullivan
Deputy

file #20
filed

GW 2

File No.

DUPLICATE

RECEIVED

JUN 3 1964

Approved Stock Form—State Publishing Co., Helena, Montana—4125

T. 19 N. R. 58 E.

County Richland

STATE ENGINEER

 STATE OF MONTANA
 ADMINISTRATOR OF GROUNDWATER CODE
 OFFICE OF STATE ENGINEER

Notice of Completion of Groundwater Appropriation by Means of Well

(Under Chapter 237, Montana Session Laws, 1961)

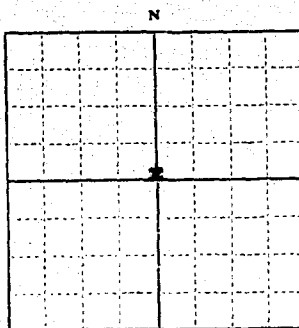
Owner Harney Redman Address Sidney Mont.Driller Francis Boyce Address Sidney Mont.

Date of Notice of Appropriation of Groundwater

Date well started Jan. 7 1964 Date Completed Jan. 14 1964Type of well Drilled Equipment Used Rotary
(dug, driven, bored or (Churn, drill, rotary or other)Water Use: Domestic ☐ Municipal ☐ Other ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Stock ☒

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

| Size of Drilled Hole | Size and Weight of Pipe | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|-------------------------|-------------|-----------|--------------|--------|--------|
| 4" to 50" | 1 1/2 galv. | 0 | 58 | Kind | From | To |
| | | | | 2 3/4" | 4 3/4" | 4 3/4" |
| | | | | clay | | |



1/4 Sec. 3 T. 19 R. 58
 Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

Static Water Level for non-flowing Well _____ feet.

Shut-in Pressure for Flowing Well 29 lbs.

Pumping Water Level _____ feet at _____ gal. per minute.

Discharge in gal. per min. of flowing well 5 1/2 gal.

How Tested _____ Length of Test _____

Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other similar pertinent information, including number of

acres irrigated, if used for irrigation) _____

10' packer at 429 to 439Driller's License Number 92Driller's Signature Francis Boyce

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

38151

STATE OF MONTANA, }
County of Richland, } ss. 289113

Filed this 1 day of

June A. D. 19 64

at 2:42 o'clock, P. M.

E. L. Larker
County Recorder

A. Sullivan
Deputy

See: #202
Filed

GW 2

Approved Stock Form—State Publishing Co., Helena, Montana—39089

File No.

DUPLICATE

T. 19 N. R. 58 E

County: RichlandSTATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEERRECEIVED
JUL 15 1963Notice of Completion of Groundwater
Appropriation by Means of Well

(Under Chapter 237, Montana Session Laws, 1961)

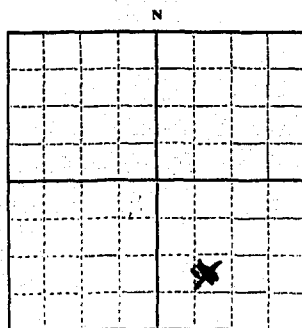
Owner: John R. Redman Address: Sidney, MontDriller: Francis Boyce Address: Sidney, Mont

Date of Notice of Appropriation of Groundwater:

Date well started: June 11, 1963 Date Completed: June 13, 1963Type of well: drilled Equipment Used: Rotary
(dug, driven, bored or (Churn, drill, rotary or
drilled) other)Water Use: Domestic ☒ Municipal ☐ Other ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Stock ☐

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|---------------------------|-------------|-----------|--------------|-------------|-----------|
| | | | | Kind Str. | From (Feet) | To (Feet) |
| 4 3/4" | 4" 11 lb | 0 | 41 | 2" 11 lb | 37 | 41 |

1/4 Sec. 4 T. 19 N. R. 58 E
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

Static Water Level for non-flowing Well: 17 feet.

Shut-in Pressure for Flowing Well:

Pumping Water Level: 18 feet at 5 gal. per minute.

Discharge in gal. per min. of flowing well:

How Tested: pump Length of Test: 12 hours

Remarks: (Gravel packing, cementing, packers, type of shutoff location of place of use of groundwater if not at well, and any other similar pertinent information, including number of acres irrigated, if used for irrigation)

no 92
Driller's License NumberFrancis Boyce
Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

5012

STATE OF MONTANA, } ss. 283583
County of Richland,

Filed this 12 day of
July A. D. 19 63
at 3:19 o'clock P. M.

E. L. Hooper
County Recorder
D. Sullivan
Deputy

per: #2
filed

File No. 2000T. 19 N 57 E

DUPLICATE

County RichlandSTATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

DEC 26 1963

Notice of Completion of Groundwater
Appropriation by Means of Well

(Under Chapter 287, Montana Session Laws, 1961)

Owner John R. Redman Address Sidney, MontDriller Francis Boyce Address Sidney, Mont

Date of Notice of Appropriation of Groundwater.....

Date well started Aug 24 1963 Date Completed Aug 28 1963Type of well Lifted Equipment Used Rotary
(dug, driven, bored or (Churn, drill, rotary or
dilled) other)Water Use: Domestic ☒ Municipal ☐ Other ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Stock ☐

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

Top of Ground
Elev. above sea level 2000

0 Topsoil
19 gray sand
19 & gravel
40 gray clay
97 coal
97 gray shale
147 rock
147 shale
152 layers of gray
225 brown shale
310 rock
315 shale with layers
315 of sandstone
365 gray shale
417 rock
422 hard sandstone
430 sandstone
430 water strata
446 shale
448

6" 5" 16 lb
4" 14 lb
8 ft packer
from 4.17 ft to 4.25 ft 3 3/4" O.D
one at 206 ft 4 ft long

448 ft

Sec. 4 T. 19 R. 58
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|---------------------------|-------------|-----------|--------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 6" | 5" 16 lb | 0 | 48 | | | |
| 4" | 14 lb | 0 | 447 | 4 1/2" x 2" | 428 | 447 |
| | gal. pipe | | | trough | | |

Static Water Level for non-flowing Well.....feet.

Shut-in Pressure for Flowing Well 15

Pumping Water Level.....feet at.....gal. per minute.

Discharge in gal. per min. of flowing well 6 gallons

How Tested.....Length of Test.....

Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other similar pertinent information, including number of

acres irrigated, if used for irrigation) 8 ft packerfrom 4.17 ft to 4.25 ft 3 3/4" O.D
one at 206 ft 4 ft long92
Driller's License NumberFrancis Boyce
Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

12655

STATE OF MONTANA, } ss. 22547
County of Richland,

Filed this 23 day of

Dec. 20 A. D. 1963

at 3:20 o'clock P. M.

C. L. Hooker

County Recorder

D. Sullivan

Deputy

fee: \$2.00
filed

Count 4

DRILLER'S LOG

JUL 16 1972

**E GROUNDWATER
ANS OF WELL
1, 1962**

irs, 1961, as amended)

three copies to be filed
Recorder in the county in
retained by driller.

le, so state, otherwise the

For Administrator's Use

323066

15.1972 9.55

GW 1

Date well started

completed

Type of well

(Dug, driven, bored or drilled)

Equipment used

(Churn drill, rotary or other)

Water Use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐

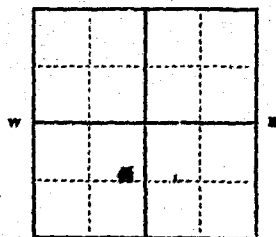
Industrial ☐ Drainage ☐ Other ☐*. Garden/Lawn ☐

***Describe**

USE: If used for irrigation, industrial, drainage or other. Explain, state number of acres and location or other data (i.e. Lot, Block and Addition).

ESTIMATED ANNUAL WITHDRAWAL

| Size of Orifice Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------------|---------------------------------|----------------|--------------|--------------|----------------|--------------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 1 1/2 | 7 1/2 | 7 1/2 | 7 1/2 | | | |



Static water level ft. *

Pumping water levelft.*

at _____ gallons per minute.

measured minutes after pumping

began.

*Measured from ground level.

Well developed by

for hours.

Power..... Pump..... HP.....

Remarks: (Gravel packing, cementing,
and other work of this kind)

packer, type of shutoff) _____

本表由填表人填写，填表人姓名：_____，填表日期：_____。

[illegible]

参考文献: [1] 李俊, 王德成. 中国城市人口空间均衡与区域可持续发展. 北京: 中国人口出版社, 2004.

[illegible]

INDICATE LOCATION OF WELL AND PLACE OF USE, IF POSSIBLE.
EACH SMALL SQUARE REPRESENTS 70 ACRES.

Driller's Signature _____

Driller's Address

LICENSE NO

Show exact depth of bottom

50,624

County

DRILLER'S LOG

Indicate the character, color, thickness of strata such as soil, clay, sand, gravel, shale, sandstone, etc. Show depth at which water is found and height to which water rises in well.

JUN 16 1972

NOTICE OF COMPLETION OF GROUNDWATER APPROPRIATION BY MEANS OF WELL

Developed after January 1, 1962

(Under Chapter 237 Montana Session Laws, 1961, as amended)

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located, last copy to be retained by driller.

Please answer all questions. If not applicable, so state, otherwise the form may be returned.

Owner: John J. Jones

Address

Date well started

completed 2/25/2002

Type of well

Equipment used

Water Use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐

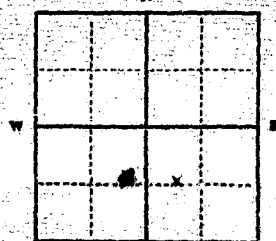
Industrial ☐ Drainage ☐ Other ☐* Garden/Lawn ☐

***Describe**

USE: If used for irrigation, industrial, drainage or other. Explain, state number of acres and location or other data (i.e. Lot, Block and Addition).

ESTIMATED ANNUAL WITHDRAWAL

| Date of Birth of Male | Age and Weight at Culling | Femur (Feet) | To (Feet) | PERFORATIONS | | |
|-----------------------------|---------------------------------|-----------------|--------------|--------------|----------------|--------------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 5 th | 14 th July | 4.78 | 7.15 | 1/2 x 4 | 7.66 | 9.15 |
| | | | | 2 x 6 | | |
| | | | | 2 x | | |
| 10 th March | | | 2.15 | | | |



Static water level ft.
Pumping water level ft.
at gallons per minute
measured minutes after pumping
began.

*Measured from ground level.

Well developed by
for hours.

Power Pump HF

Remarks: (Gravel packing, cementing
packers, type of shutoff)

11-14-54 1/2 Soc
T N R E

INDICATE LOCATION OF WELL AND PLACE OF USE, IF POSSIBLE.
EACH SMALL SQUARE REPRESENTS 20 ACRES.

Driller's Signature

Driller's Address

LICENSE NO.

Show exact depth of bottom

50,624

323066

STATE OF MONTANA,
County of Richland

Filed this 15 day of

June A.D. 1972

at 9:50 o'clock P.M.

before Nelson Klueber

County Recorder

Opal Christensen

Deputy

Filed

For \$2.00

File No.

T. 192 R 58 E

DUPLICATE

County Richland

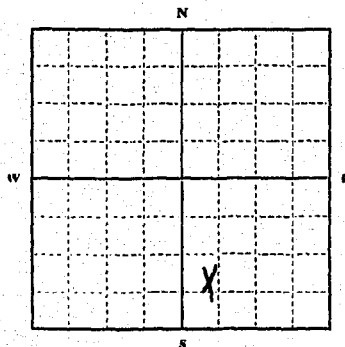
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

RECEIVED
DEC 27 1963
STATE ENGINEER

1. Karney J. Redman of Skaar Route, Sidney
(Name of Appropriator) (Address) (Town)
County of Richland State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:

SE $\frac{1}{4}$ Sec. 4 T. 19 R. 58

Indicate point of appropriation
and place of use, if possible. Each
small square represents 10 acres.

2. The beneficial use on which the claim is based
for stockwater
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1912 - continuous
year round use since
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 1 1/2 gallons per minute
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof
not applicable
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal artesian
flow piped - located Sec. 4,
T. 19 R. 58
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater unknown
8. The depth of water table unknown
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater type artesian; size, 4 in. casing,
1 inch pipe; depth 450 ft. approximately
10. The estimated amount of groundwater withdrawn each year 720,000 gal.
11. The log of formations encountered in the drilling of each well if available not available
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record have no other information

Signature of Owner Karney J. RedmanDate Dec 26, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer. Triplicate to the Montana Bureau of
Mines and Geology, and Quadruplicate for the Appropriator.

13707

STATE OF MONTANA,
County of Richland,

ss. 286003

Filed this 26 day of

December A.D. 1963

at 2:49 o'clock P.M.

County Recorder

W. L. Laska

Deputy

fee 2.00
filed

T. 19N R. 58E

County Wilbur County

RICHLAND CO

7/16/75

MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

WATER WELL LOG

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |

Owner Gillam, Burrall & Gillam Address Savage, Montana

Driller Francis Boyce Address Trotters, N. Dak.

Date Started June 4, 1959 Date Completed June 10, 1959

Location: Sec. 5 T. 19 R. 58 $\frac{1}{4}$ sec. North West

Type of well Drilled Equipment used Rotary
(Dug, driven, bored, or drilled) (Churn drill, rotary, other)

Water use: Domestic ☐ Municipal ☐ Stock ☒ Irrigation ☐

Industrial ☐ Drainage ☐ Other: _____

Casing: 0 ft. to 288 ft. Type Line Pipe Size 4 inch 11 lb. per ft.

Casing: _____ ft. to _____ ft. Type _____ Size _____

Casing: _____ ft. to _____ ft. Type _____ Size _____

Perforated or Screened: Ft. None to ft. _____ Ft. _____ to ft. _____

Type of screen or perforations: _____

Static Water level, for non-flowing well: 216 feet.

Shut-in pressure, for flowing well: _____ lb./sq. in. on: _____ (date)

Pumping water level 260 feet at 3 gal. per min.

How tested: Cylinder Pump

Length of test 12 Hours

Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

Gravel packed from 320 back to 280 feet.

(over)

Log of Well

WATER WELL LOG
Gilles, Burrell & Gilliam
to
Public
Filed: July 6, 1958
11:50 A. M.
Fee: \$1.00
Burrell & Gilliam
Clerk & Recorder

GW 3

Approved Stock Form—State Publishing Co., Helena, Montana—42262

File No.

T. 19 N. R. 58 E.

DUPLICATE

County. Richland

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

JAN 10 1964

STATE ENGINEER

**Notice of Completion of Groundwater Appropriation
Without Well**

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater 12-31-63

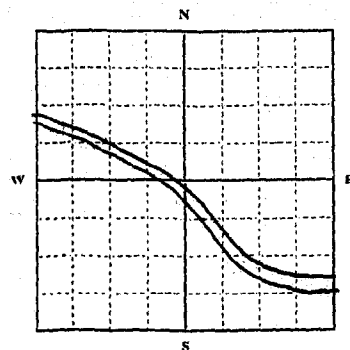
Owner Touber Inc Address Chicago

Contractor (if any) none

Address of Contractor

Date Started Date Completed

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. spring fed



$\frac{1}{4}$ Sec. 7 T. 19 R. 58
Indicate point of appropriation
and place of use, if possible.

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use. year

cattle year around on
used bottom

Signature of Owner Touber Inc. Mel Touber

Date 12-31-63

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

29978

STATE OF MONTANA, } ss. 286684
County of Richland,

Filed this 31 day of
December A.D. 1963
at 9:30 o'clock P.M.

E. L. Barker
County Recorder
John L. Burke
Deputy

fee 200
filed

GW 4

Approved Stock Form—State Publishing Co., Helena, Montana—42234

File No. _____

DUPLICATE

T. 19 N 58 E

County. Richland

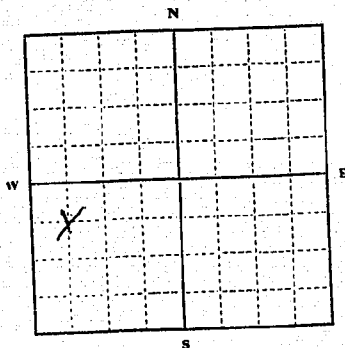
JAN 10 1964

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. A. J. Pedersen, of Savage (Name of Appropriator) (Address)
County of Richland State of Montana (Town)
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SW 1/4 Sec. 8 T. 19 N. R. 58

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based livestock
House

3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1940 to Date 1963

4. The amount of groundwater claimed (in miner's inches or gallons per minute) 50 gal per min

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal
electric pump 1/2 sec 8-1958

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. 1940

8. The depth of water table. 12 ft

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater

10. The estimated amount of groundwater withdrawn each year. 2 000 000

11. The log of formations encountered in the drilling of each well if available. quicksand

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record.

Signature of Owner A. J. Pedersen

Date Dec 31, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

29785

STATE OF MONTANA, } ss. 296491
County of Richland,

Filed this 31 day of
Dec. A. D. 19 1913
at 11:31 o'clock P.-M.
C. L. Kooker
County Recorder
R. A. Johnson
Deputy

*See: 22
filed*

Gl.

Approved Stock Form—State Publishing Co., Helena, Montana—42234

File No.

T. 19N R. 58E
County. Richland

DUPLICATE

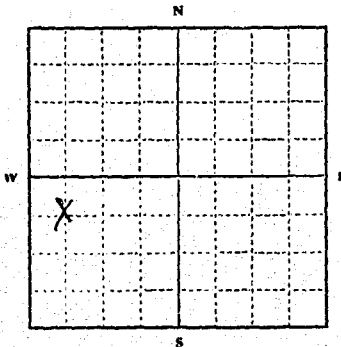
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

JAN 10 1964

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. A. J. Pedersen, of Savage
(Name of Appropriator) (Address) (Town)
County of Richland State of Mont
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SW 1/4 Sec. 8 T. 19N R. 58E

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based livestock + house

3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1950 to Date 1963

4. The amount of groundwater claimed (in miner's inches or gallons per minute) 25 gal per min

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal

electric pump Sec. 8 T. 19N R. 58E

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1950

8. The depth of water table 12 ft

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater

10. The estimated amount of groundwater withdrawn each year 500 000

11. The log of formations encountered in the drilling of each well if available quicksand

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record

Signature of Owner

Date Dec 31, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

29784

STATE OF MONTANA, } ss. 286490
County of Richland,

Filed this 31 day of

Dec. A. D. 1913

at 11:30 o'clock, A.M.

E. L. Hooker

County Recorder

R. Richison

Dec: 200

filed

61.

Approved Stock Form—State Publishing Co., Helena, Montana—42234

File No.

T. 19 N. R. 58 E.

DUPLICATE

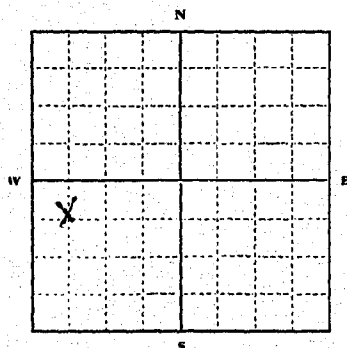
County. Richland

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. A. J. Pedersen, of Savage
(Name of Appropriator) (Address) (Town)
County of Richland State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



Sec 8 T 19 R 58

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based livestock and household water
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1914 to date 1963
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 25 gal per min
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal Artesian St. Aug 1958

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1914
8. The depth of water table 285 ft
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater.
10. The estimated amount of groundwater withdrawn each year 1000 000 gal
11. The log of formations encountered in the drilling of each well if available.
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record.

Signature of Owner A. J. Pedersen

Date Dec 31 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

29783

STATE OF MONTANA, } ss. 286489
County of Richland,

Filed this 31 day of

Dec. A. D. 1913

at 11:29 o'clock, P. M.

E. L. Kosher

County Recorder

R. Atkinson

Deputy

fee: 2.00
filed

T. 19 N R. 58 E 10

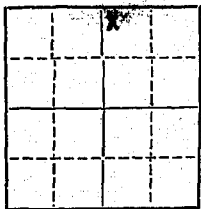
County Richland

MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

RECEIVED
JAN 2 1962

WATER WELL LOG

STATE ENGINEER



Owner Karney Redman Address Sidney, Montana

Driller Francis Boyce Address Trotters, N. Dak.

Date Started July 3, 1960 Date Completed July 7, 1960

Location: Sec. 10 T. 19 R. 58 1/4 sec. 79 E.

Type of well drilled Equipment used churn drill
(Dug, driven, bored, or drilled) (Churn drill, rotary, other)

Water use: Domestic ☒ Municipal ☐ Stock ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Other:

Casing: 0 ft. to 61 ft. Type line pipe Size 4 inch 11 lbs. p. 6.

Casing: ft. to ft. Type Size

Casing: ft. to ft. Type Size

Perforated or Screened: Ft. none to ft. Ft. to ft.

Type of screen or perforations

Static Water level, for non-flowing well: 25 ft. feet.

Shut-in pressure, for flowing well: lb/sq. in. on: (date)

Pumping water level 40 ft. feet at 12 gal. per min. minute

How tested: bailer

Length of test

Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

Log of Well

[illegible]

G

Approved Stock Form—State Publishing Co., Helena, Montana—42234

File No. _____

T

19 N 58 E

DUPLICATE

County

Richland

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

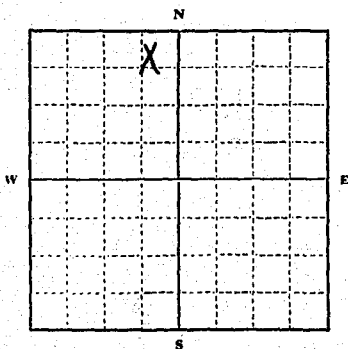
RECEIVED
DEC 27 1963

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

STATE ENGINEER

1. Karney J. Redman, of Shaw Route, Sidney
(Name of Appropriator) (Address) (Town)
County of Richland State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



NW 1/4 Sec. 10 T. 19 R. 58

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based stockwater

3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1912 - use continuous since

4. The amount of groundwater claimed (in miner's inches or gallons per minute) 3 1/2 gallons per minute

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof not applicable

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal artesian flow piped - located Sec. 10, T. 19, R. 58

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater unknown

8. The depth of water table unknown

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater type artesian; size, 4 inch casing, 1 inch pipe; depth, 450 feet, approximately

10. The estimated amount of groundwater withdrawn each year 1,550,000 gallons

11. The log of formations encountered in the drilling of each well if available not available

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record none available

Signature of Owner

Karney J. Redman
Date Dec. 26, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

13705

STATE OF MONTANA,
County of Richland,

ss. 2860007

Filed this 26 day of

December A. D. 1963

at 2:45 o'clock P. M.

E. L. Looker
County Recorder

Hein Luerke
Deputy

for 2.00
filed

File No.

T. 19 N 58 E 17

DUPLICATE

County. Richland

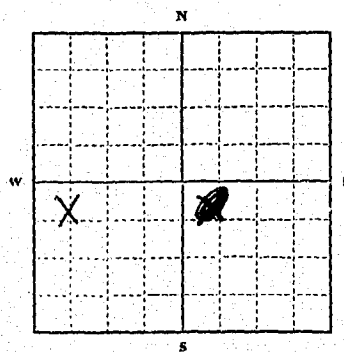
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

JAN 10 1964

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. A. J. Pedersen, of Savage
(Name of Appropriator) (Address) (Town)
County of Richland State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SW 1/4 Sec 17 T. 19 N. 58 E

Indicate point of appropriation
and place of use, if possible. Each
small square represents 10 acres.

2. The beneficial use on which the claim is based livestock
house

3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1950 to Date 1963

4. The amount of groundwater claimed (in miner's inches or gallons per minute) 25 gal per min

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal Artesian

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1950

8. The depth of water table 525 ft

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater.

10. The estimated amount of groundwater withdrawn each year 1,000,000 gal

11. The log of formations encountered in the drilling of each well if available Blue clay

500 ft 7 ft rock quicksand

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record.

Signature of Owner A. J. PedersenDate Dec 31, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

29786

STATE OF MONTANA, } ss. 296492
County of Richland,

Filed this 31 day of
Dec. A. D. 19 63
at 11:32 o'clock P. M.
E. L. Hooker
County Recorder
R. Atchison
Deputy

fee: 2.00
filed

File No.

T. 19 N. R. 58 E.

DUPLICATE

County Richland

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

JAN 10 1964

Notice of Completion of Groundwater Appropriation
Without Well

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater..... 1934

Owner Hennrichsen Address Long, Mont.

Contractor (if any)

Address of Contractor

Date Started 1934 Date Completed 1934Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. at ground levelsurface

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

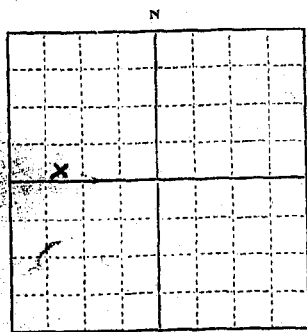
estimate approximate lengths of periods of use. yeararound use estimate inpipe fullSignature of Owner HennrichsenDate Dec. 31, 1963

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.



SW 1/4 NW 1/4 Sec 18 T. 19 N. R. 58 E.

Indicate point of appropriation and place of use, if possible.

STATE OF MONTANA, No. 286625
County of Richland,
Filed this 31 day of
December A.D. 1963
at 1:45 o'clock P.M.
Ed. J. Lasker
County Register
John L. Lasker
Deputy
Fee 20⁰⁰
Filed

File No.

DUPLICATE

SECTION NO 2
RECEIVED
MAY 20 1964
STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Approved Stock Form—State Publishing Co., Helena, Montana—42234

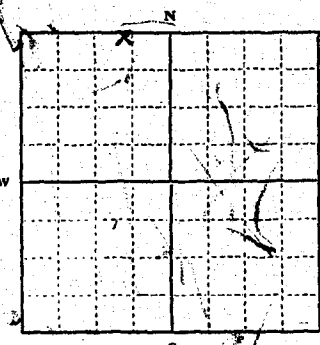
T 19 1/2 58 1/2
County Richland

JAN 10 1964

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Genneth Larsen, of Savage, Montana
(Name of Appropriator) (Address) (Town)
County of Richland State of Montana
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



NEMM, Sec. 18 T. 19 R. 68

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based stock water
3. Date or approximate date of earliest beneficial use; and how continuous the use has been
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 5 or 6 more or less
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof no
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal pump

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1954

8. The depth of water table 130 ft. or less

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. 2" with casing first four feet. Balance of casing is 3" for 1" pipe for pump

10. The estimated amount of groundwater withdrawn each year unknown

11. The log of strata encountered in the drilling of each well if available pump down except for 30 or more of gravel and sand

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record none

Signature of Owner

Genneth Larsen

Date Dec 31, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

STATE OF MONTANA, } ss. 286624
County of Richland,

Filed this 31 day of
December A.D. 1962
at 1:46 o'clock P.M.
E. L. Raskins
County Recorder
Nelson Dierke
Deputy

fee 200
filed

GW 2

Approved Stock Form—State Publishing Co., Helena, Montana—3908.

File No.

T. 19 N. R. 58 E.

DUPLICATE

County: RichlandSTATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER
OFFICE OF STATE ENGINEERRECEIVED
DEC 4 1962Notice of Completion of Groundwater
Appropriation by Means of a Well

(Under Chapter 237, Montana Session Laws, 1961)

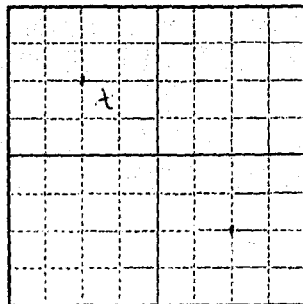
Owner: Kenneth J. Redman Address: Sidney, MontDriller: Thomas Boyce Address: Sidney, Mont

Date of Notice of Appropriation of Groundwater:

Date well started: Nov 23 1962 Date Completed: Nov 30 1962Type of well: drilled Equipment Used: Rotary
(dug, driven, bored or (Churn, drill, rotary or
drilled) other)Water Use: Domestic ☐ Municipal ☐ Other ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Stock ☒

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|--------------------------------|---------------------------|-------------|-----------|--------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 4" hole to 400 ft | 4" 11 lb PF | 0 | 42 | | | |
| 3 1/2" hole from 410 to 871 ft | 1 1/2" galv pipe | 0 | 871 | | 850 | 871 |

S.E. 1/4 N.W. Sec. 24 T. 19 R. 58 E.
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

Static Water Level for non-flowing Well.....feet.

Shut-in Pressure for Flowing Well 40 lbs

Pumping Water Level.....feet at.....gal. per minute.

Discharge in gal. per min. of flowing well 15 gallons

How Tested.....Length of Test.....

Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other similar pertinent information, including number of

acres irrigated, if used for irrigation).....

packers at 830 ft & 758 ft92 Montana
Driller's License NumberThomas Boyce
Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quaduplicate for the Appropriator.

2411

STATE OF MONTANA, } ss. 27712
County of Richland, }

Filed this 3 day of

Dec A. D. 19 12
at 1:45 o'clock, P. M.

C. L. Tucker
County Recorder

R. A. Harrison
Deputy

\$2.00 fee
filed

T. 19N R. 58E 31

County Richmond

Richmond 7th
5/29/15

MONTANA BUREAU OF MINES AND GEOLOGY
Butte, Montana

WATER WELL LOG

| | | |
|---|--|--|
| | | |
| X | | |
| | | |

Owner Herbert R. Roe Address Wibaux, Montana

Driller Francis Boyce Address Trotters, N. D.

Date Started June 10, 1955 Date Completed June 16, 1955

Location: Sec. 31 T. 19 R. 58 $\frac{1}{4}$ sec. NW

Type of well Drilled Equipment used Jet
(Dug, driven, bored, or drilled) (Churn drill, rotary, other)

Water use: Domestic ☐ Municipal ☐ Stock ☒ Irrigation ☐

Industrial ☐ Drainage ☐ Other: _____

Casing: 0 ft. to 333 ft. Type Well casing Size 5 inch

Casing: 0 ft. to 525 ft. Type Galvanized pipe Size 1 1/2

Casing: _____ ft. to _____ ft. Type _____ Size _____

Perforated or Screened: Ft. 460 to ft. 481 Ft. _____ to ft. _____

Type of screen or perforations small holes in pipe

Static Water level, for non-flowing well: _____ feet.

Shut-in pressure, for flowing well: 10 lb./sq. in. on: June 16, 1955
(date)

Pumping water level _____ feet at _____ gal. per min.

How tested: _____

Length of test _____

Remarks: (Gravel packing, cementing, packers, type of shut-off, depth of shut-off)

Well flows 1 gallon per minute

(over)

Log of Well

[illegible][illegible]

631281

File No.

T. 19 N. R. 58 E.

DUPLICATE

County Highland

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

MAR 11 1964

Notice of Completion of Groundwater Appropriation by Means of Well

(Under Chapter 237, Montana Session Laws, 1961)

Top of Ground
(Elev. above sea level. 2035)
0 - 333' 7' flowed 1 pt. per. min.
333 - 457' grey shale
457 - 460' rock
460 - 470' sandstone 1 pt. per. min.
470 - 496' shale
496 - 500' rock
From 333' to 693' this well was drilled to 333' by a cable tool rig and another contractor
500 - 563' dark shale
563 - 565' rock
565 - 651' hard tough shale
651 - 672' fine sandstone dry
672 - 690' coarse sand artisan strata
690 - 693' shale

Owner Harry P. Stanley Address Liboux, Mont.

Driller Francis Boyce Address Liboux, Mont.

Date of Notice of Appropriation of Groundwater

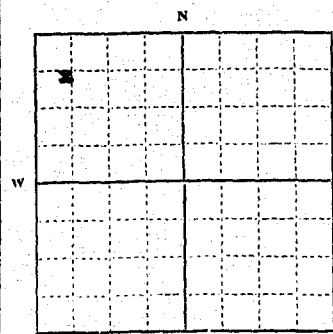
Date well started Mar. 1, 1964 Date Completed Mar. 7, 1964

Type of well drilled Equipment Used Rotary
(dug, driven, bored or drilled) (Churn, drill, rotary or other)

Water Use: Domestic ☐ Municipal ☐ Other ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Stock ☒

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|-----------------------------------|---------------------------|-------------|-----------|----------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| Old well has 5" casing to 333 ft. | | | | | | |
| 333' To 693' is a 4" hole | 1 1/2" galv. casing | 0 | 693' | 2" torch slots | 659 | 693' |



Sec. 31 T. 19 R. 58
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

693'

Static Water Level for non-flowing Well feet.

Shut-in Pressure for Flowing Well 30 lbs

Pumping Water Level feet at gal. per minute.

Discharge in gal. per min. of flowing well 5 1/2 gal. P.M.

How Tested Length of Test

Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other similar pertinent information, including number of

acres irrigated, if used for irrigation).....

Top packer 610 to 616' and 652 to 659'
no perforations between

92

Driller's License Number

Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

35442

67875

Completion of drainage
appropriation by manager

Harry Lowndes

to

Public

WYANDOT COUNTY, MONTANA

FILED

March 10, 1964

1:05 PM

George Schaefer
Sec. 2.00

File No.

DUPLICATE

RECEIVED
JUN 3 1964

T 19 R 58

County Richland

STATE ENGINEER

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

Notice of Completion of Groundwater Appropriation by Means of Well

(Under Chapter 237, Montana Session Laws, 1961)

Owner Barney Redman Address Sidney Mont.
Driller Francis Boyce Address Sidney Mont.

Date of Notice of Appropriation of Groundwater

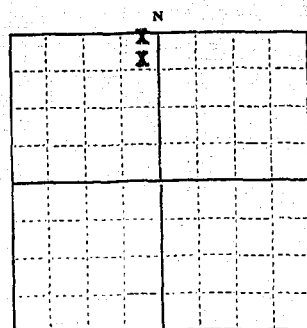
Date well started Jan. 18 1964 Date Completed Feb. 26 1964

Type of well Drilled Equipment Used Rotary
(dug, driven, bored or drilled) (Churn, drill, rotary or other)

Water Use: Domestic ☐ Municipal ☐ Other ☐ Irrigation ☐
Industrial ☐ Drainage ☐ Stock ☒

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

| Size of Drilled Hole | Size and Weight of Casing | From (Feet) | To (Feet) | PERFORATIONS | | |
|----------------------|---------------------------|-------------|-----------|-----------------------------|-------------|-----------|
| | | | | Kind Size | From (Feet) | To (Feet) |
| 4" | 4" I.D. II lbs. P.V. | 0 | 65 | 2 1/2" x 3 1/2" torch slots | 7 1/2 | 85 |
| 4" | 1 1/2" galv. | 0 | 85 | | | |



1/4 Sec. 32 T 19 R 58
Indicate location of well and place of use, if possible. Each small square represents 10 acres.

Show exact depth of bottom.

Static Water Level for non-flowing Well feet.

Shut-in Pressure for Flowing Well 40 lbs.

Pumping Water Level feet at gal. per minute.

Discharge in gal. per min. of flowing well 20 gal.

How Tested Length of Test

Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other similar pertinent information, including number of

acres irrigated, if used for irrigation)

8" packer from 764 to 772 ft.

Driller's License Number

Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

38150

STATE OF MONTANA, } ss. 289112
County of Richland,

Filed this 1st day of
June A. D. 19 14
at 2:40 o'clock P.M.

C. S. Kooker
County Recorder
R. Atchison
Deputy

See: # 200
Filed

File No.

DUPLICATE

T. 19 N 58 E

County. Richmond

STATE OF MONTANA
ADMINISTRATOR OF GROUNDWATER CODE
OFFICE OF STATE ENGINEER

RECEIVED
DEC 27 1963

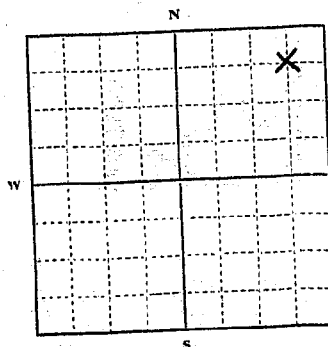
Notice of Completion of Groundwater Appropriation
Without Well

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater used since 1940's
Owner Karney J. Redman Address Redman started use in 1960
Sidney, Montana

Contractor (if any) unknownAddress of Contractor unknownDate Started unknown Date Completed unknown

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. water comes to surface
under natural pressure (a spring)-
flows down to fill tank for
stock water



NE 1/4 Sec. 35 T. 19 N. 58 E

Indicate point of appropriation and place of use, if possible.

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent estimate approximate lengths of periods of use rate of

flow - 2 gallons per minute - measured
as it fills tank for stock water

Signature of Owner

Karney J. RedmanDate Dec 26, 1963

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

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